//8 . Implement the C program for Page Replacement Algorithms: LIFO, LRU

FIFO

//Learnprogramo

#include <stdio.h>

int main()

{

int referenceString[20], pageFaults = 0, m, n, s, pages, frames;

printf("\nEnter the number of Pages:\t");

scanf("%d", &pages);

printf("\nEnter reference string values:\n");

for( m = 0; m < pages; m++)

{

   printf("Value No. [%d]:\t", m + 1);

   scanf("%d", &referenceString[m]);

}

printf("\n What are the total number of frames:\t");

{

   scanf("%d", &frames);

}

int temp[frames];

for(m = 0; m < frames; m++)

{

  temp[m] = -1;

}

for(m = 0; m < pages; m++)

{

  s = 0;

  for(n = 0; n < frames; n++)

   {

      if(referenceString[m] == temp[n])

         {

            s++;

            pageFaults--;

         }

   }

   pageFaults++;

   if((pageFaults <= frames) && (s == 0))

      {

        temp[m] = referenceString[m];

      }

   else if(s == 0)

      {

        temp[(pageFaults - 1) % frames] = referenceString[m];

      }

      printf("\n");

      for(n = 0; n < frames; n++)

       {

         printf("%d\t", temp[n]);

       }

}

printf("\nTotal Page Faults:\t%d\n", pageFaults);

return 0;

}

LRU

 #include<stdio.h>

int findLRU(int time[], int n){

int i, minimum = time[0], pos = 0;

for(i = 1; i < n; ++i){

if(time[i] < minimum){

minimum = time[i];

pos = i;

}

}

return pos;

}

int main()

{

    int no\_of\_frames, no\_of\_pages, frames[10], pages[30], counter = 0, time[10], flag1, flag2, i, j, pos, faults = 0;

printf("Enter number of frames: ");

scanf("%d", &no\_of\_frames);

printf("Enter number of pages: ");

scanf("%d", &no\_of\_pages);

printf("Enter reference string: ");

    for(i = 0; i < no\_of\_pages; ++i){

     scanf("%d", &pages[i]);

    }

for(i = 0; i < no\_of\_frames; ++i){

     frames[i] = -1;

    }

    for(i = 0; i < no\_of\_pages; ++i){

     flag1 = flag2 = 0;

     for(j = 0; j < no\_of\_frames; ++j){

     if(frames[j] == pages[i]){

     counter++;

     time[j] = counter;

   flag1 = flag2 = 1;

   break;

   }

     }

     if(flag1 == 0){

for(j = 0; j < no\_of\_frames; ++j){

     if(frames[j] == -1){

     counter++;

     faults++;

     frames[j] = pages[i];

     time[j] = counter;

     flag2 = 1;

     break;

     }

     }

     }

     if(flag2 == 0){

     pos = findLRU(time, no\_of\_frames);

     counter++;

     faults++;

     frames[pos] = pages[i];

     time[pos] = counter;

     }

     printf("\n");

     for(j = 0; j < no\_of\_frames; ++j){

     printf("%d\t", frames[j]);

     }

}

printf("\n\nTotal Page Faults = %d", faults);

    return 0;

}